



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,918	12/07/2001	David R. Cheriton	CIS0119US	6156
33031 7590 07/13/2007 CAMPBELL STEPHENSON ASCOLESE, LLP 4807 SPICEWOOD SPRINGS RD. BLDG. 4, SUITE 201 AUSTIN, TX 78759			EXAMINER SHAW, PELING ANDY	
			ART UNIT 2144	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/010,918

Applicant(s)

CHERITON, DAVID R.

Examiner

Peling A. Shaw

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

pas

DETAILED ACTION

1. Amendment received on 04/16/2007 has been entered into record. Claims 1, 9, 12, 17, 24, 32, 35, 40 and 48 are amended. Claims 1-58 are currently pending.
2. Applicant's submission filed on 09/11/2006 was entered. Claims 1, 9, 17, 24, 32, 40 and 48 were amended.
3. Amendment received on 02/27/2006 was entered into record. Claims 9, 12, 17, 32, 35, 48 and 51 were amended. Claims 56-58 were new.

Priority

4. This application has no priority claim made. The filing date is 12/07/2001.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Uga et al. (US 6718326 B2), hereinafter referred as Uga.

- a. Regarding claim 1, Uga disclosed a method of processing a packet comprising:
populating a plurality of multi-feature packet processing rules in a multi-feature classification memory (column 20, line 51-60); and populating an associated content-

addressable memory with a plurality of indices, wherein said indices are indices of said plurality of multi-feature packet processing rules in said multi-feature classification memory (column 20, line 37-50), said content-addressable memory and said multi-feature classification memory are associated with one another by virtue of said content-addressable memory being coupled to (Fig. 4, 6 and 23; column 3, lines 41-49: CAM and search result storage memory; column 10, lines 52-62: CAM and search result storage device are coupled via packet classification search processing unit via flag, tags and association tags; column 13, line 45-column 15, line 4) provide an index of said indices to said multi-feature classification memory, and each of said indices corresponds to at least one of said multi-feature packet processing rules (column 20, line 37-50).

- b. Regarding claim 2, Uga disclosed the method of claim 1, further comprising:
identifying a classification of said packet; and using said classification to identify said multi-feature packet processing rule (column 20, line 37-43).
- c. Regarding claim 3, Uga disclosed the method of claim 2, wherein said classification is based on a plurality of parameters of said packet (column 20, line 37-43).
- d. Regarding claim 4, Uga disclosed the method of claim 2, further comprising:
receiving said packet; finding a match for said classification in said associated content-addressable memory; and receiving one of said indices from said associated content-addressable memory for one of said multi-feature packet processing rules in said multi-feature classification memory (column 20, line 61-column 21, line 12).

- e. Regarding claim 5, Uga disclosed the method of claim 4, further comprising: using said index to receive said multi-feature packet processing rule from said multi-feature classification memory (column 20, line 61-column 21, line 12).
- f. Regarding claim 6, Uga disclosed the method of claim 4, wherein said content-addressable memory is a multi-feature content addressable memory (column 20, line 44-50).
- g. Regarding claim 7, Uga disclosed the method of claim 4, wherein said content-addressable memory is a feature based content-addressable memory bank (column 20, line 44-50).
- h. Regarding claim 8, Uga disclosed the method of claim 7, wherein said multi-feature packet processing rules are populated in said multi-feature classification memory according to a feature hierarchy (column 3, line 19-40).
- i. Claims 9-16 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
- j. Claims 17-23 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8. As per abstract of Uga, the fields of rules of packet classification are grouped into groups, and the grouped fields of each rule are stored along with search related information and number of searches information in a CAM. Here the grouping of rules of classification into groups is the merging of a set of packet processing rules per claimed limitation in claim 17.
- k. Claims 24-31 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.

Art Unit: 2144

- l. Claims 32-39 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
- m. Claims 40-47 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
- n. Claims 48-55 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
- o. Claims 56 and 58 are of the same scope as claims 1 and 4-5. These are rejected for the same reasons for claims 1 and 4-5.
- p. Claim 57 is of the same scope as claims 1-2. It is rejected for the same reasons as for claims 1-2.

Uga disclosed all limitations of claims 1-58. Claims 1-58 are rejected under 35 U.S.C.

102(e).

Response to Arguments

6. Applicant's arguments filed on 04/16/2007 have been fully considered, but they are not persuasive.
- a. Applicant has amended the claim language. Examiner has reviewed the amended claim changes. Examiner has further reviewed the previous claim rejections in office action dated 12/08/2006 and the applied prior art, i.e. Uga. Examiner has updated the claim rejections as above.
 - b. Applicant raised similar arguments as in previous amendment dated 12/08/2006 and 09/11/2006, i.e. indexing from CAM to multi-feature classification memory and merging of a set of packet processing rules.
 - c. Examiner has responded in item b of Response to Arguments per office action dated 12/08/2006 on indexing from CAM to multi-feature classification memory. In addition, Uga has shown couple CAM and MFCM via association tags (column 10, lines 52-62) that is the claimed indices. In identifying a memory location of interest, it is well known to one skill in the art to use indices or similar terminologies, e.g. tags here per Uga, to point in memory the location of interest. Here Uga's result storage is the memory identify by CAM with tags as the indices.
 - d. Examiner has responded in item a of Response to Arguments per office action dated 06/06/2006 on merging of a set of packet processing rules. In addition, In addition, Uga has shown in abstract that the fields of rules of packet classification are grouped into groups, and the grouped fields of each rule are stored along with search related information and number of searches information in a CAM. Here the grouping of

rules of classification into groups is the merging of a set of packet processing rules per claimed limitation in claim 17.

- e. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see items a and j in section 5). Uga has shown using content addressable to direct search result to a search result storage device/memory for packet classification search. Similar arts are identified in Reference Cited and Other Publications sections of Uga as well as those listed in the following Remark section. It is clear that Applicant must be able to submit claim language to distinguish over the prior arts used in the above rejection sections that discloses distinctive features of Applicant's claimed invention. It is suggested that Applicant compare the original specification and claim language with the cited prior art used in the rejection section above or the Remark section below to draw an amended claim set to further the prosecution.
- f. Failure for Applicant to narrow the definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant's intent to broaden claimed invention. Examiner interprets the claim language in a scope

Art Unit: 2144

parallel to the Applicant in the response. Examiner reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Remarks

7. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. Mate et al. (US 20030056001 A1) Selective routing of data flows using a TCAM
- b. Woo (US 20020023089 A1) Modular packet classification
- c. Fowler et al. (US 6504819 B2) Classes of service in an MPOA network
- d. Ginossar (US 6477143 B1) Method and apparatus for packet network congestion avoidance and control
- e. Gai et al. (US 6167445 A) Method and apparatus for defining and implementing high-level quality of service policies in computer networks
- f. Herbert (US 5325445 A) Feature classification using supervised statistical pattern recognition
- g. Schultz et al. (1994 IEEE) CAM-Based Single-Chip Shared Buffer ATM Switch
- h. Joffe et al. (US 6415354 B1) Pipelined methods and apparatus for weight selection and content addressable memory searches
- i. Abdat (US 6484170 B2) Generating searchable data entries and applications therefore

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

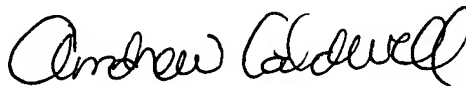
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2144

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pas

pas



ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER